CLAIMS

What is claimed is:

1. An integrated conventional air conditioning system having an auxiliary power source for use in trucks powered by a main internal combustion diesel engine, consisting of:

an air conditioner compressor having a single shaft with a clutch engagable pulley coupled thereto and a belt-driven pulley mounted pulley thereon, said pulley operable to drive said shaft independently of said clutch engagable pulley, said air conditioner compressor mounted to said main engine, said clutch engagable pulley rotatable by a main engine mounted pulley when said main engine is operating;

an electric motor mounted to and mechanically linked to said air conditioner compressor, said electric motor having a second clutch engagable pulley operatively coupled thereto wherein said second clutch engagable pulley is rotatable when said electric motor is operating, said second clutch engagable pulley coupled to said belt-driven pulley mounted on said shaft;

means for selectively and independently engaging said first clutch engagable pulley and said second clutch engagable pulley for operation of said air conditioner compressor;

an auxiliary power plant for the operation of said electric motor;

whereby said conventional air conditioning system introduces cool air through the truck mounted air conditioning ducts while the main engine is operating or when said auxiliary power source is employed.

2. The integrated conventional air conditioning system for use with an auxiliary power source according to claim 1 wherein said auxiliary power source is a horizontally

disposed one cylinder liquid cooled Kubota diesel engine.

3. The integrated conventional air conditioning system for use with an auxiliary power source according to claim 1 wherein said auxiliary power source is a low profile auxiliary power plant placed within an enclosure having an interconnected floor, opposite vertical side walls, opposite vertical end walls, and a top parallel to said floor, said auxiliary power plant including an integral engine/generator set fixed in said enclosure, said set having a liquid cooled internal combustion engine rigidly connected to an electrical generator by a thin vertical planar bracket, said engine having at least one cylinder disposed parallel to said floor for turning said generator to produce electricity, said set connected to isolation mounts to reduce vibration, said isolation mounts fixed to said floor.

4. The integrated conventional air conditioning system for use with an auxiliary power source according to claim 3 wherein the height of said vertical end walls and said vertical side walls is approximately 15 inches.

5. The integrated conventional air conditioning system for use with an auxiliary power source according to claim 3 wherein said liquid cooled engine has a radiator and associated fan, said radiator and said fan remotely mounted.

6. The integrated conventional air conditioning system for use with an auxiliary power source according to claim 3 including a radiator located between said perforated wall and said associated fan whereby said fan extracts heat from said enclosure and provides air

flow across said radiator.

7. The integrated conventional air conditioning system for use with an auxiliary power source according to claim 1 wherein said first clutch engagable pulley is rotatable by said engine mounted pulley by use of a flexible belt.

8. The integrated conventional air conditioning system for use with an auxiliary power source according to claim 1 wherein said second clutch engagable pulley is rotatable by said electric motor mounted pulley by use of a flexible belt.

9. The integrated conventional air conditioning system for use with an auxiliary power source according to claim 1 wherein said means for selectively and independently engaging said first clutch and second engagable pulleys includes a relay means for preventing simultaneous operation of said first and second clutch.

10. The integrated conventional air conditioning system for use with an auxiliary power source according to claim 2 wherein said auxiliary power plant provides about 3.5 kilowatts.

11. The integrated conventional air conditioning system for use with an auxiliary power source according to claim 1 wherein said generator in said auxiliary power plant is an alternating current generator.

12. The integrated conventional air conditioning system for use with an auxiliary

power source according to claim 1 including a rigid electric motor mounting plate having a first bolt hole pattern to couple said plate to said air conditioning compressor and a second bolt hole patter to couple said electric motor to said plate.

13. An integrated conventional air conditioning system having an auxiliary power source for use in trucks powered by a main internal combustion diesel engine, consisting of:

an air conditioner compressor having a single shaft with first and second clutch engagable pulleys coupled thereto, said air conditioner compressor mounted to said main engine, said first clutch engagable pulley rotatable by a main engine mounted pulley when said main engine is operating;

an electric motor mounted to said air conditioner compressor, said electric motor having a shaft mounted pulley coupled to said second clutch engagable pulley, said second clutch engagable pulley rotatable when said electric motor is operating;

means for selectively and independently engaging said first clutch engagable pulley and said second clutch engagable pulley for operation of said air conditioner compressor;

an auxiliary power plant for the operation of said electric motor;

whereby said conventional air conditioning system introduces cool air through the truck mounted air conditioning ducts while the main engine is operating or when said auxiliary power source is employed.

14. The integrated conventional air conditioning system for use with an auxiliary power source according to claim 13 wherein said auxiliary power plant is a horizontally disposed one cylinder liquid cooled Kubota diesel engine coupled to an electric generator.